IN THE CLAIMS:

Please amend claim 20 as follows:

1. (Previously Presented) A semiconductor laser comprising: a semiconductor substrate; a core region defined by an active layer formed on one side of the semiconductor substrate; and a clad region defined by at least one clad layer overlaying the active layer,

wherein the core region has a gain region with a length not smaller than 18 micrometers and not greater than 200 micrometers along an optical axis of at least the core region or the clad region; at least one of the core region and the clad region has a stripe shape with a width modulated in a direction perpendicular to the optical axis such that the width is narrower in the vicinity of ends of the gain region than a center portion thereof.

2. (Previously Presented) The semiconductor laser as claimed in Claim 1, wherein the center portion within the gain region forms a multi-lateral-mode waveguide.

3. (Previously Presented) The semiconductor laser as claimed in Claim 2, wherein the multi-lateral mode waveguide has a lateral width W and a waveguide length L decided so as to minimize a conversion loss accompanying mode conversion at a junction between a waveguide mode of the multi-lateral mode waveguide and a waveguide mode of a lateral-mono mode waveguide which is optically connected to the multi-lateral mode waveguide.

4. (Previously Presented) The semiconductor laser as claimed in Claim 2, wherein a lateral width W and a waveguide length L of the multi-lateral mode waveguide, an effective refractive index n of the multi-lateral mode waveguide, and an operation wavelength λ are decided so as to satisfy a formula as follows:

$$0.9\ nW^2/\lambda \leqq L \leqq 1.1\ nW^2/\lambda.$$

5. (Previously Presented) The semiconductor laser as claimed in Claim 2, wherein the multi-lateral mode waveguide has a lateral width W in a range from 3 to 10 micrometers.

6. (Original) The semiconductor laser as claimed in Claim 1, further comprising a reflection mirror formed by etching the clad region and the core region.

7. (Previously Presented) The semiconductor laser as claimed in Claim 3, wherein a diffraction grating is formed in the lateral-mono mode waveguide portion to provide a Bragg reflector therein.

8. (Cancelled)

9. (Previously Presented) The semiconductor laser as claimed in Claim 7, wherein the Bragg reflector has a reflection wavelength changed by an external signal so as to artificially change the oscillation wavelength.

10. (Previously Presented) An optical module comprising at least an optical fiber for introducing light outside and a semiconductor laser that includes a semiconductor substrate; a core region defined by an active layer formed on one side of the semiconductor substrate; and a clad region defined by at least one clad layer overlaying the active layer,

wherein the core region has a gain region with a length not smaller than 18 micrometers and not greater than 200 micrometers along an optical axis of at least the core region or the clad region; at least one of the core region and the clad region has a stripe shape with a width modulated in a direction perpendicular to the optical axis such that the width is narrower in the vicinity of ends of the gain region than a center portion thereof.

11. (Previously Presented) A semiconductor laser comprising: a semiconductor substrate; a core region defined by an active layer formed on one side of the semiconductor substrate; and a clad region defined by at least one clad layer at least overlaying the active layer,

wherein the core region has a gain region with a length not smaller than 5 micrometers and not greater than 200 micrometers along an optical axis of at least the core region or the clad region; at least one of the core region and the clad region has a

stripe shape with a width modulated in a direction perpendicular to the optical axis such that the width is narrower in the vicinity of ends of the gain region is set narrower than a center portion thereof.

12. (Previously Presented) The semiconductor laser as claimed in Claim 11, wherein the center portion within the gain region forms a multi-lateral-mode waveguide.

13. (Previously Presented) The semiconductor laser as claimed in Claim 12, wherein the multi-lateral mode waveguide has a lateral width W and a waveguide length L decided so as to minimize a conversion loss accompanying mode conversion at a junction between a waveguide mode of the multi-lateral mode waveguide and a waveguide mode of a lateral-mono mode waveguide which is optically connected to the multi-lateral mode waveguide.

14. (Previously Presented) The semiconductor laser as claimed in Claim 12, wherein a lateral width W and a waveguide length L of the multi-lateral mode waveguide, an effective refractive index n of the multi-lateral mode waveguide, and an operation wavelength λ are decided so as to satisfy a formula as follows:

$$0.9\ nW^2/\lambda \leqq L \leqq 1.1\ nW^2/\lambda.$$

15. (Previously Presented) The semiconductor laser as claimed in Claim 12, wherein the multi-lateral mode waveguide has a lateral width W in a range from 3 to 10 micrometers.

16. (Original) The semiconductor laser as claimed in Claim 11, further comprising a reflection mirror formed by etching the clad region and the core region.

17. (Previously Presented) The semiconductor laser as claimed in Claim 13, wherein a diffraction grating is formed in the lateral-mono mode waveguide portion to provide a Bragg reflector therein.

18. (Cancelled)

19. (Previously Presented) The semiconductor laser as claimed in Claim 17, wherein the Bragg reflector has a reflection wavelength changed by an external signal so as to artificially change the oscillation wavelength.

20. (Currently Amended) An optical module comprising at least an optical fiber for introducing light outside and a semiconductor laser that includes a semiconductor substrate; a core region defined by an active layer formed on one side of the semiconductor substrate; and a clad region defined by at least one clad layer overlaying the active layer,

wherein the core region has a gain region with a length not smaller than [[18]] 5 micrometers and not greater than 200 micrometers along an optical axis of at least the core region or the clad region; at least one of the core region and the clad region has a stripe shape with a width modulated in a direction perpendicular to the optical axis such that the width is narrower in the vicinity of ends of the gain region than a center portion thereof.